

NEW SPECIES OF  
*CLITORIA* SUBGENUS *BRACTEARIA*  
SECTION *BRACHYCALYX* (LEGUMINOSAE)  
FROM COLOMBIA, VENEZUELA, AND BRAZIL<sup>1</sup>

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Members of *Clitoria* L. subgenus *Bractearia* (Mart. ex Benth.) Fantz section *Brachycalyx* Fantz are characterized by short tubular to cup-shaped calices with minute lobes, inflorescences emerging from denuded nodes earlier than the appearance of the leaves, fruits which become slightly convex around the seeds and are conspicuously depressed between the seeds at maturity, deciduous leaves, and usually an erect habit (trees or tall shrubs). Section *Brachycalyx* includes seven species (Fantz, 1979): *Clitoria brachystegia* Benth., *Clitoria brachycalyx* Harms, *Clitoria glaberrima* Pittier, *Clitoria dendrina* Pittier, and the three species newly described below.

1. *CLITORIA hermannii* Fantz, sp. nov.

*Frutex* ad 2 m altus. Folia trifoliata, foliola suborbiculata vel late ovalia, obrusa et abrupte minute acuminata, supra trichomatibus brevibus mollibus appressis, subtus velutinis. Inflorescentia 1.5–2 cm longa, axillaris a nodis denudatis ante foliis primum crescens, subpaniculata, ramis primaris lateralibus pedicellos praeditis ad 4 mm longis. Flores resupinati, albi, 4.8–5.2 cm. Calyx brevitybularis, dense appressopubescentis; tubus 11–13 mm longis; lobi breves, 3–4 mm longi. Vexillum extus fulvo-sericeum. Tubus staminalis 24–26 mm, apice trichomatibus uncinatis. Legumen incognitum.

Erect shrub to 2 m tall. Branches solid, pubescence moderately dense with short, appressed to suberect trichomes; axillary buds 3–3.5 mm. Leaves 3-foliolate, subcoriaceous, leaflets suborbicular becoming broadly oval when expanded, apex obtuse, abruptly minutely acuminate, base weakly cordate to rotund, midrib impressed above, primary nerves of 8–10 pairs, upper surface soft pubescent, trichomes short (ca 0.5 mm), appressed, lower surface velutinous, juvenile leaflets 4–7 cm in diameter, lamina expanding to 10–12 cm long by 7–9 cm wide. Petiole elongate, 6.5–15 cm, pubescence dense, appressed; rachis (1.5) 2–2.5 cm; petiolules quadrangular, tomentose, 5–8 mm. Stipules caducous (?– not observed); stipels caducous,

<sup>1</sup>Taxonomic studies on *Clitoria* accomplished at the IFAS Herbarium, Dept. of Botany, The University of Florida, Gainesville, Florida. Florida Agricultural Experiment Station Journal Series No. 1346.

linear, acute, 3-nerved, 2–2.5 mm long, 0.5 mm wide, sparsely pubescent. *Inflorescence* axillary, multiflowered, at denuded nodes appearing earlier than the leaves, subpaniculate with primary lateral branches which bear the pedicels subsessile to 4 mm long; axes crowded toward branch apices, pubescence dense; central axis 1.5–2 cm long; pedicels 5–7 mm. Bracts persistent, 1.5–2 mm long, 1 mm wide, pubescence dense, appressed. Bracteoles minute, ovate to suborbicular, obtuse, 2–3 mm long, 2 mm wide, pubescence appressed, dense. *Flowers* resupinate, white, 4.8–5.2 cm. Calyx short-tubular, pubescence dense, appressed, tube 11–13 mm long, 5–6 mm wide at base expanding to 8–9 mm wide at throat, lobes minute, broadly ovate-deltoid, 3–4 mm long, 2–2.5 mm wide, ventral lobe 4–5 mm long. Vexillum with indumentum on dorsal surface dense, appressed, tawny, blade ca 3 cm wide, claw broadly cuneate, 8–9 mm long. Alae extended well beyond carina by 6–9 mm, blade 19–23 mm long, 6–10 mm wide, claw 12–15 mm. Carina blade falcate, 10–12 mm long, 4 mm wide, claw 21–24 mm. Staminal tube 24–26 mm long, uncinately-pubescent near apex, vexillary stamen coherent near middle of tube, free above and below, free filaments 2–5 mm long; anthers lanceolate, 2–2.5 mm long, 0.5 mm wide, connective apiculate. Gynophore 5 mm, with a few spreading white trichomes near apex; ovary 14–15 mm long, 1.3 mm wide, pubescence white slightly tinged yellowish, dense; style bearded, 16–17 mm, geniculate 7–8 mm; stigma subcapitate, 0.5 mm in diameter. *Legume* unknown. Fig. 1.

TYPE COLLECTIONS: COLOMBIA. Vichada: shrub 18 in., almost leafless, fl. white, grassy llanos, along Rio Vichada, San José de Ocuté, 100 m, 19 Jan 1944, *Hermann 10994* (HOLOTYPE: NY. ISOTYPE: GH). PARATYPES: COLOMBIA. Vichada: 6 km NE of Masaquara on llanos along Rio Vichada, ca 36 km NE of San José de Ocuté, 100 m, 21 Jan 1944, *Hermann 11019* (NY, US 1879110).

*Clitoria hermannii* appears similar to *C. dendrina* and *C. brachycalyx* in its vegetative aspects, but the larger flowers, smaller stipels, and other morphological comparisons indicate closer affinities with *Clitoria brachystegia* of Ecuador, which is easily distinguished from *C. hermannii* by the elongated inflorescences (5–22 cm) and acuminate leaflets which are pilose below. All known collections of this species are from localities near San José de Ocuté, Colombia.

## 2. *CLITORIA canescens* Pittier ex Fantz, sp. nov.

*Clitoria canescens* Pittier, *nom. in sched.*

*Frutex*. Folia trifoliata, foliola lanceolata-elliptica, acuminata, supra glabra, subter super nervis trichomatibus inconspicuis, appressis. Inflorescentia 1.5–3.5 cm vel longior (? apex effractus), racemoso-nodosa vel subpaniculata, pedicelli super axe centrali ex toris lignosis portati vel aliquando super ramis primariis lateralibus ad 6–7 mm longis portati. Flores parva, resupinati, 3.5 cm. Calyx brevitybularis, canescens, tubus 13–15 mm, lobi 3–4 mm. Vexillum extus canescens, praesertum in albastris. Tubus staminalis glaber, 28 mm longus. Legumen incognitum.

Shrub. Branches subterete, solid, internodes in weak zigzag pattern, ju-

venile branches with pubescence uncinata (vidi 30X) plus scattered, short, appressed trichomes (vidi 10X), becoming glabrous; axillary buds 3 mm. *Leaves* 3-foliolate, coriaceous, leaflets lanceolate-elliptic, apex acuminate, base broadly cuneate, midrib impressed above appearing as if it is in a shallow groove, primary nerves of 9–10 pairs, upper surface faintly glossy,

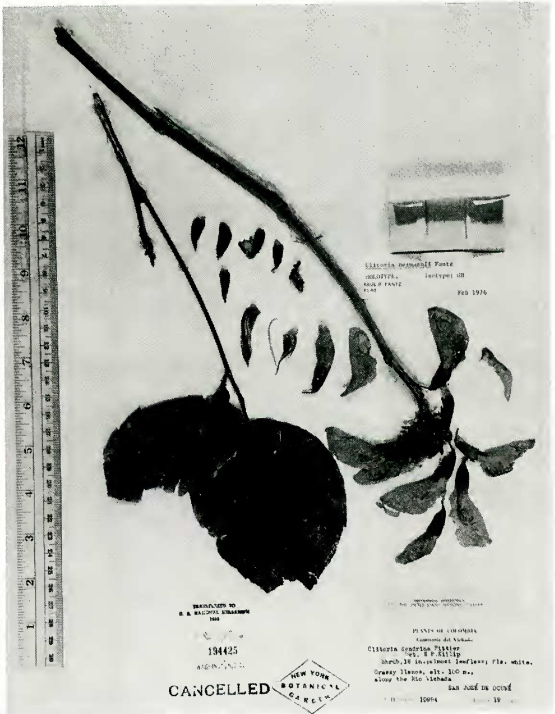


Figure 1. Holotype of *Clitoria hermanna* (Hermann 10994, NY).

glabrous, lower surface dull, pubescence on nerves, inconspicuous, short, appressed, lamina 15–17 cm long, 6–7 cm wide. Petioles subquadrangular-terete, 9 cm; rachis 3.5 cm; petioles subquadrangular, rugose, glabrate, 8–10 mm. *Inflorescence* terminal, racemose-nodose to subpaniculate, pedice's borne on central axis at lignose knobs or occasionally on a primary lateral branch of 6–7 mm; axes compressed laterally, subquadrangular, twisting, pubescence moderately dense, appressed; central axis 1.5–3.5 cm long or possibly longer (apex broken); pedicels strigose, 6 mm. Bracts minute, ovate, acute, strigose, 1–2 mm long, 0.5–1 mm wide. Bracteoles minute, ovate, acute to short-acuminate, 2–3 mm long, 1–1.5 mm wide, strigose. *Flowers* resupinate, small, 3.5 cm, purple (?—in dry state the appearance is similar to *C. dendrina* which has purple flowers). Calyx dark-colored, with short-appressed trichomes (buds densely pubescent, canescent), tube short, 13–15 mm long, 4–5 mm wide at base expanding to 7 mm at the throat, lobes minute, broadly deltoid, short-acuminate, 3–4 mm long, 2.5–3 mm wide at base, ventral lobe linear, 6 mm long, 0.5–0.7 mm wide. Vexillum with indumentum on dorsal surface dense, canescent, appressed, blade obovate, 1.5 cm wide, claw 6–7 mm long, cuneate. Alae extended beyond the carina by 4–5 mm, blade 17 mm long, 3–5 mm wide, claw 16 mm. Carina blade falcate, acute, 16 mm long, 4–5 mm wide, claw 20 mm. Staminal tube glabrous, 28 mm long, free filaments 3–5 mm; anthers 3 mm long, 0.5 mm wide. Gynophore 3 mm long, brownish-black, moderately densely sericeous, white trichomes; ovary 13 mm long, 1 mm wide, black with very dense pubescence, trichomes white, sericeous; style black near base and sericeous, bearded above, 18 mm long, geniculate 3–4 mm; stigma compressed, 0.5 mm in diameter. *Legume* unknown. Fig. 2.

TYPE COLLECTION: VENEZUELA. Amazonas: sitios arenoso de la boca del Gahama, Cãno S. Miquel, Guiana, alto Rio Negro, 26 Mar 1942, *Williams 14893* (HOLOTYPE: VEN 4038).

The type specimen bears the name "*Clitoria canescens* Pittier, sp. n." typed on the label and is placed in a separate type folder bearing this name. No record of the publication of Pittier's name has been found. Pittier (1944) did not include this species in his key to the species of *Clitoria* in Venezuela.

Dried flowers of this species morphologically suggest *Clitoria dendrina* more than any other species in the genus, although *C. canescens* can be distinguished easily by the canescent vexillum and calyx tube (especially during the bud stage), longer calyx tubes, longer style, and the sparse pubescence of the leaves. In addition, the inflorescences are less crowded with flowers and occasionally bear primary lateral branches, the ovary lacks any yellowish pigmentation, and other floral structures differ in their measurements. *Clitoria canescens* is known only from the type locality.

### 3. *CLITORIA froesii* Fantz, sp. nov.

*Frutex caulibus scandentibus. Folia trifoliata, foliola lata ovata vel late ovalia vel*



Figure 2. Holotype of *Clitoria canescens* (Williams 14893, VEN 4038).

*late oblongata, acuminata, supra hirsuta, subter pilosa.* Inflorescentia 1.5–3 cm, pauciflora. Flores resupinati, parvi, 3.5–4 cm. Calyx brevitybularis, *tubus* 12–13 mm, dense appressopubescent, lobi 3–4 mm. Vexillum extus sericeum. *Tubus staminalis glaber*, 24–28 mm, *antherae* 2.4–3 mm, *connectivo longo-apiculato*. Legumen incognitum.

Liana. Branches 3–9 mm in diameter, solid becoming hollow in larger diameter branches, juvenile branches longitudinally striated, angular-terete, pubescence densely uncinata (vidi 30X) beneath the erect to appressed macrotrichomes (vidi 10X), the latter deciduous with age, mature branches becoming glabrate; axillary buds 5 mm. *Leaves* 3-foliolate, thick-membranaceous, conspicuously pubescent, leaflets slightly asymmetrical, broadly ovate to broadly oval or broadly oblong, apex acuminate, acumen to 1.5 cm long, base rotund, midrib and some of the basal primary nerves weakly raised above, midrib densely pubescent, primary nerves of 7–11 pairs, upper surface dark green, minutely hirsute, texture similar to fine sandpaper, lower surface light green, pilose, nerves densely pilose-hirsute, lamina 10–25.5 cm long, 7–16.5 cm wide. Petioles elongate, 13–24 cm, subterete, trichomes dense, erect; rachis 4–6.5 cm; petiolules 5–7 mm, quadrangular, trichomes dense, erect, tawny. Stipules caducous, lanceolate, acute, 4–7 mm long, 2 mm wide on juvenile branches to 10 mm x 3 mm on more robust branches; stipels caducous, linear, acute, weakly 3-nerved, 3–6 mm long, 0.5–1 mm wide. *Inflorescence* axillary and terminal, racemose-nodose; axes solitary, occasionally branched near base, few flowered, 1.5–3 cm, trichomes dense, erect; pedicels 6–7 mm. Bracts minute, ovate, acute, 2–3 mm long, 2 mm wide, densely pubescent. Bracteoles ovate, acute, 3–4 mm long, 2 mm wide, densely pubescent. *Flowers* resupinate, small, 3.5–4 cm. Calyx pubescence dense, appressed, tube short, 12–13 mm long, 4–6 mm wide at the base expanding to 7–9 mm wide at the throat, lobes minute, deltoid, acute, (3) 4 mm long, 2 mm wide, ventral lobe subequal, 1–1.5 mm wide. Vexillum with indumentum sericeous on the dorsal surface, blade 2.5 cm wide, claw 4–6 mm. Alae extended beyond the carina by 4–6 mm, blade 18–21 mm long, 4–8 mm wide, claw short, 7–9 mm. Carina falcate, 9–13 mm long, 4 mm wide, claw 12–16 mm. Staminal tube glabrous, 24–28 mm long, vexillary stamen coherent below to near the middle, free filaments 2–4 mm long; anthers lanceolate, 2.4–3 mm long, 0.5–0.8 mm wide, connective long-apiculate. Gynophore 2–3 mm; ovary 10–11 mm long, 1.2–1.3 mm wide, pubescence dense, white; style 14–15 mm, bearded, geniculate 6 mm; stigma capitate, 0.5 mm in diameter. *Legume* unknown. Fig. 3.

TYPE COLLECTIONS: BRAZIL. Amazonas: terra firma, Macubeta on Rio Maria, basin Rio Negro, 31 Jan 1942, *Fróes* 12441/185 (HOLOTYPE: NY-Hb. Krukoff. ISOTYPE: A). PARATYPE: BRAZIL. Amazonas: Pirapuca on Rio Negro, 1941, *Fróes* 12431/175 (S-Hb. Erik Wall).

*Clitoria froesii* is the only species of section *Brachycalyx* with a climbing

habit, but the short calyx with minute lobes, the pubescence on the upper surface of the leaflets, and the lack of cauliflorous flowers suggest that this species should be assigned to section *Brachycalyx* rather than section *Cauliflorae* which is characteristically composed of species with a climbing

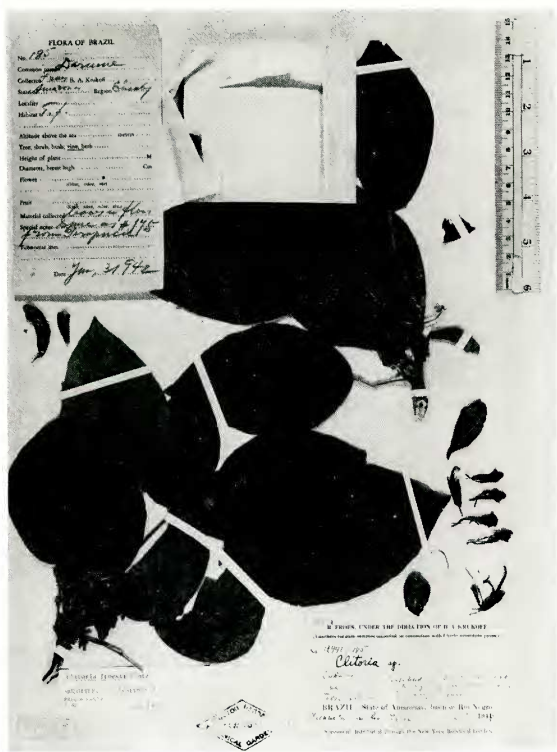


Figure 3. Holotype of *Clitoria froesii* (Froes 12441/185, NY).

habit. *Clitoria froesii* has close affinities with *Clitoria dendrina* which is distinguished by the arboreal habit, smaller calyx, smaller anthers, more crowded inflorescences, and leaflets which are velutinous below and broadly ovate to rhombic-ovate to orbicular. *Clitoria froesii* is known only from western Amazonas, Brazil.

Fróes noted that the local Indians call this plant "Darume Vine" and plant it in fair quantities, considering it to be the most toxic plant in the region of the Rio Icana. Fróes does not indicate for what purpose the toxin is used by the Indians. Other South American species of *Clitoria* are known to produce toxic seeds which are used locally as a fish poison.

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